CSCE 330 Fall 2001

HOMEWORK 6–CORRECTION GUIDE

Assigned Monday, 01/11/5. Due Monday, 01/11/12

Most of the following questions refer to Chapter 7 ("Functional Programming Languages") of Ghezzi and Jazayeri's textbook.

1. List the three concepts that characterize imperative languages. **Answer:** variables, destructive assignment, repetition.
2. What is the most common functional form in mathematics, according to the textbook? **Answer:** composition
3. Functional forms are also called higher-order functions. Why? **Answer:** Because they treat other ("lower-order") functions as arguments.
4. What are the three primary components of a functional programming language? **Answer:** data objects, primitive functions, and combining forms (a.k.a. higher-order functions).
5. Give three examples of built-in functions in (Backus's) FP. **Answer:** e.g., identity, selection, constant.
6. Give three examples of functional forms in FP. **Answer:** e.g., composition, construction, and apply-to-all.
7. What is currying used for in functional programming? **Answer:** to replace multiple-argument functions with single-argument functions.
8. List five functional languages. **Answer:** e.g., LISP, ML, FP, APL, Scheme.
9. In LISP, programs and data have the same representation. True or false? **Answer:** True
10. What is the term used in APL to indicate a primitive function? **Answer:** Operator
11. Is ML statically or dynamically scoped? **Answer:** statically